

REMARKS

Claims 1-20 are pending. Claims 1, 3, 5, 7, 10 and 12-18 have been amended. Portions of the specification have also been amended. Applicants respectfully request reconsideration of the application in response to the non-final Office Action.

Claim Rejection – 35 U.S.C. §112

Claims 1-4, 12 and 13 have been rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicants regard as the invention. Claims 1, 3, 12 and 13 have been amended to address the alleged deficiencies. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §112, second paragraph, of claims 1, 3, 12 and 13, and of claims 2 and 4, which depend from claims 1 and 3, respectively, be withdrawn.

Claim Rejection – 35 U.S.C. §103(a)

Claims 1-20 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2004/0167670 to Goncalves *et al.* ("Goncalves") in view of U.S. Patent No. 5,974,348 to Rocks ("Rocks"). Applicants respectfully traverse the rejection for at least the following reasons.

The Office indicates that Goncalves does not disclose a mobile robot having a communications module for transmitting a light source control signal to selectively control flickering of a plurality of light sources of a landmark array provided in a

working space. Applicants respectfully disagree with the Office that Rocks supplies the teachings missing from Goncalves. The specification of the instant application provides that, in one embodiment, a mobile robot 500 is constructed to include a pose calculation module 504 that selectively controls the flickering of light sources of a landmark array 100 by transmitting a light source control signal to a landmark array control module 300. (Specification at page 6, lines 6-8 and FIG. 1, emphasis added). The landmark array control module 300 controls corresponding light sources of the landmark array 100 to flicker in response to the light source control signal transmitted from the mobile robot 500. (Specification at page 5, lines 27-29 and FIG. 1, emphasis added). By using the flickering light sources, the mobile robot 500 can recognize position, thereby enabling autonomous navigation. (Specification at page 6, lines 8-10).

Rocks describes a self-propelled robot 100 that moves through a garden 110 surrounded by navigation beacons 121-127. (Rocks at col. 6, lines 31-35 and FIG. 1). The robot 100 has an on-board camera that detects light rays 131-137 from lights in the beacons 121-127 and processes camera output to detect position. (Rocks at col. 6, lines 39-43). Rocks further describes a beacon controller module 374, located in a management office 140 or at another place near the beacons 121-127 (i.e., not in the on-board computer 330 of the robot 100, as shown in FIG. 3A), for controlling the activation and de-activation of the lights of the beacons 121-127. (Rocks at col. 8, lines 55-56 and col. 9, lines 58-61).

In Rocks, a beacon control box 375, actuated by a signal from the beacon controller module 374, sends a radio pulse to the robot 100 when the lights of the beacons 121-127 are turned on. (Rocks at col. 15, lines 30-32 and col. 9, lines 63-

65). In this way, the "robot 100 is [a] slave since several robots can work the same field (set of lights) at the same time and light flashing cannot be private to one cart [of one robot]." (Rocks at col. 15, lines 32-34 and col. 6, lines 53-55). Contrary to the Office's assertion, nowhere does Rocks describe that the robot 100 selectively controls the flickering of the lights by transmitting a light source control signal. (Office action at pages 4-5, paragraph 9).

Thus, no combination of Goncalves and Rocks teaches or suggests a mobile robot that includes "a communications module for transmitting a light source control signal to selectively control flickering of a plurality of light sources of a landmark array provided in a working space," as recited in independent claim 1 (emphasis added), or "a mobile robot equipped with a pose calculation module for selectively controlling the light sources of the landmark array to flicker by transmitting the light source control signal to the landmark array control module," as recited in independent claim 5 (emphasis added), or "the mobile robot selectively controlling light sources of a landmark array arranged across a certain working space to flicker by transmitting a light source control signal to the landmark array," as recited in independent claim 15, as amended (emphasis added).

Accordingly, Applicants submit that independent claims 1, 5 and 15 are patentable over Goncalves and Rocks and respectfully request that the rejection under 35 U.S.C. §103(a) of claims 1, 5 and 15, and of claims 2-4, 6-14 and 16-20, which depend therefrom, respectively, be withdrawn.

Conclusion

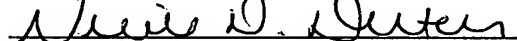
It is believed that this Response and Amendment does not require additional fees. However, if additional fees are required for any reason, please charge Deposit Account No. 02-4800 the necessary amount.

In the event that there are any questions concerning this paper, or the application in general, the Examiner is respectfully urged to telephone Applicants' undersigned representative so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: April 12, 2007

By: 
Nicole D. Dretar
Registration No. 54076

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620